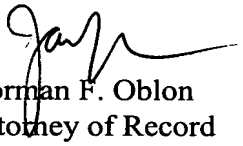
Applicants have now submitted a substitute Sequence Listing and a corresponding computer-readable Sequence Listing, and an amendment. Contents of the paper copy of the substitute Sequence Listing and the computer-readable Sequence Listing are identical. Support for all the sequences listed in the substitute Sequence Listing can be found in the present application. No new matter is introduced by the submission of the substitute Sequence Listing and the computer-readable Sequence Listing.

Applicants submit that this application is now in condition for examination on the merits. Early notice to this effect is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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Serial No.: 09/897,988

Amendment Filed On: Herewith

IN THE CLAIMS

Please amend the claims as follows:

--1. A method for producing a target substance utilizing a [microorganism] microorganism, comprising the steps [of] of:

culturing the microorganism in a medium to produce and accumulate the target substance in the [medium] medium; and

collecting the target substance,

wherein

the microorganism is constructed from a parent strain of the microorganism having a respiratory chain pathway of high energy efficiency and a respiratory chain pathway of low energy efficiency as respiratory chain pathways, and

the microorganism is a mutant strain or a genetic recombinant strain having either one or both of the following characteristics:

(A) the respiratory chain pathway of high energy efficiency is enhanced,

(B) the respiratory chain pathway of low energy efficiency is deficient.

2. The method for producing a target substance according to claim 1, wherein the respiratory chain pathway of high energy efficiency is enhanced [by] by:

increasing a copy number of a gene coding for an enzyme involved in the respiratory [chain] chain; or

modification of an expression regulatory sequence of the gene.

3. The method for producing a target substance according to [claim] Claim 1 [or 2], wherein the respiratory chain pathway of low energy efficiency is made deficient by disruption of a gene coding for an enzyme involved in the respiratory chain.

4. The method for producing a target substance according to [any one of claims 1-3,] Claim 1, wherein [enzymes] an enzyme of the respiratory chain of high energy efficiency [include] is at least one member selected from the group consisting of SoxM type oxidase, bcl complex, and NDH-1 [or two or three kinds of them].

5. The method for producing a target substance according to [any one of claims 1-4,] Claim 1, wherein [enzymes] an enzyme of the respiratory chain of low energy efficiency [include] is at least one member selected from the group consisting of cytochrome bd type [oxidase,] oxidase and NDH-II [or both of them].

6. The method for producing a target substance according to [any one of claims 1-5,] Claim 1, wherein [activity of] the microorganism comprises enhanced SoxM type oxidase activity [is enhanced] and deficient NDH-II activity [is made deficient in the microorganism].

7. The method for producing a target substance according to [any one of claims 1-6,] Claim 1, wherein the SoxM type oxidase is cytochrome bo type oxidase.

8. The method for producing a target substance according to [any one of Claims 1-7,] Claim 1, wherein the microorganism is at least one member selected from the group consisting of bacterium belonging to the genus *Escherichia* and [coryneform] *Coryneform* bacterium.

9. The method for producing a target substance according to [any one of Claims 1-8,] Claim 1, wherein the target substance is at least one member selected from the group consisting of L-amino acids and nucleic acids.--